OPERATOR MANUAL

Basil® 1100

Feeder Bottle Filler

(2004-03-04) P122996-004

A WORD FROM STERIS CORPORATION

This manual contains important information on proper use and routine maintenance of the Basil® 1100 Feeder Bottle Filler. **All personnel involved in the use and maintenance of this equipment must carefully review and comply with the warnings, cautions, and instructions contained in this manual.** These instructions are important to protect the health and safety of personnel operating the equipment and should be retained in a conveniently accessible area for quick reference.

Complete instructions for uncrating and connecting utilities, as well as equipment drawings, have been furnished. If missing, contact STERIS for replacement copies, giving the unit serial and model numbers .

STERIS carries a complete line of accessories for use with this equipment. A STERIS representative will gladly review these with you.

Advisory

A listing of the *Safety Precautions* to be observed when operating and servicing this equipment can be found in Section 1 of this manual. Do not operate or service the equipment until you have become familiar with this information.

Any alteration of this equipment not authorized or performed by STERIS which could affect units operation, will void the warranty, could adversely affect operation efficacy, could violate federal, state and local regulations and jeopardize your insurance coverage.

Indications for Use

The Basil 1100 Feeder Bottle Feeder is designed for efficient filling of feeder bottles used in animal care laboratories. The acid proportioner unit is designed to mix liquid additives into an animal drinking water dispensed by bottles. The proportioner system is provided with a pH analyzer and a strip printer designed to monitor and record the pH of the water outlet.

Service Information

A thorough preventive maintenance program is essential to safe and proper unit operation. This manual contains maintenance schedules and procedures which should be followed for satisfactory equipment performance.

You are encouraged to contact STERIS concerning extended service maintenance agreements to give your unit planned maintenance, assuring equipment performance according to factory specifications. A global network of skilled service specialists can provide periodic inspections and adjustments to assure low-cost peak performance. STERIS can provide information regarding annual maintenance agreements.

See inside back cover for contact information.

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LISTING OF SAFETY PRECAUTIONS AND SYMBOLS

1

The following list of the *Safety Precautions* **must** be observed when operating and servicing this equipment. WARNINGS indicate the potential for danger to personnel, and CAUTIONS indicate the potential for damage to equipment. These *Safety Precautions* are repeated, where applicable, throughout the manual.

WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

⚠ Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage.

⚠ Regularly scheduled preventive maintenance, in addition to the faithful performance of the minor maintenance described within this manual, is required for safe and reliable operation of this equipment. Contact STERIS to schedule preventive maintenance.

⚠ When moving the unit, use a forklift.

WARNING – ELECTRIC SHOCK AND BURN HAZARD:

⚠ Disconnect all utilities to unit before servicing. Do not service the equipment unless all utilities have been properly locked out. Always follow electrical safety-related work practice standards.

⚠ Disconnect main power switch before opening cover and working on electrical components.

⚠ For continued protection against fire hazard replace only with same type and rating of fuse.

WARNING - CHEMICAL BURN AND/OR EYE INJURY HAZARD:

⚠ When filling bottles, always wear gloves that are appropriately resistant to the chemicals being used.

⚠ Wear gloves and eye protection when using a descaling product. Avoid contact with eyes or skin. If spilled or splashed, flush with plenty of water for 15 minutes. If swallowed, DO NOT induce vomiting. Administer an alkali with plenty of water. Seek medical attention immediately.

⚠ Liquid descaler is corrosive and can cause adverse effects to exposed tissues. Do not get into eyes, on skin, or attempt to swallow. Avoid breathing of mists.

- Read and follow the precautions and instructions on the descaler label and in the Material Safety Data Sheet (MSDS) prior to use.
- Wear protective clothing, gloves, and face shield when using descaler. If descaler contacts skin or eyes, immediately flush with running water for 15 minutes. Seek medical attention.
- Use adequate ventilation. In case of inhalation, remove to fresh air and call a physician.

WARNING – LACERATION HAZARD:

⚠ When removing bolts, wear gloves to protect your hands.

(See next page for additional Warnings and Cautions)

WARNING – HEALTH HAZARD:

⚠ Vapors from solvent can be harmful. Use with adequate ventilation. Follow directions on the container.

WARNING - SLIPPING HAZARD:

⚠ To prevent slips, keep floors dry. Promptly clean up any spills or condensation

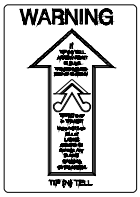
CAUTION – POSSIBLE EQUIPMENT DAMAGE:

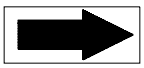
⚠ Use non-abrasive cleaners when cleaning unit. Follow directions on containers and rub in a back-and-forth motion (in same direction as surface grain). Abrasive cleaners will damage stainless steel. Cleaners rubbed in a circular motion or applied with a wire brush or steel wool can be harmful to stainless steel. Do not use these cleaners on painted surfaces.

⚠ When removing adhesives from stainless steel, use a solvent specially formulated for that purpose. Rub in a back-and-forth motion (in same direction as surface grain). Solvent rubbed in a circular motion or applied with a wire brush or steel wool on assemblies can be harmful to stainless steel. Do not use solvents on painted surfaces.

⚠ When choosing chemicals, to be added to the water, choose ones which have low viscosity and which have no abrasives or particles that would tend to gum or clog the Acid Proportioner System.

Symbols

Symbols on the Crate:	
Symbol	**Definition**
	TIP'N TELL Indicator. "If TIP'N TELL arrow point is blue, this package has been on its side or tipped over in transit. Make note on bill of ladding and check for damage. Any claims for tipping will be based on this notation."
	This Side Up.
	Do Not Stack.
	Fragile.
	Keep Dry.

Symbols on the Unit:	
Symbol	**Definition**
	Warning. Refer to Manual for Further Information.
	Rotation: Direction of the Rotating Device.

Information on the Nameplate:	
MOD.	Model of the Unit.
SER.	Serial Number of the Unit.
kV	Power Rating of the Unit.
V	Volts.
A	Amperage Rating of the Unit.
PH/Hz	Phase/Hertz – Frequency of the Unit.

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2.1 Uncrating Instructions

A room layout, floor plan, and equipment drawing, showing all utility and space requirements, were shipped with the unit. The clearance space, specified on the floor plan, is necessary for proper installation, operation, and maintenance of the unit. If any of these documents are missing or misplaced, contact STERIS, giving the unit serial number and model numbers. Replacement copies will be sent to you promptly.

2.1.1 Open Crate

NOTE: When uncrating unit, note the following:

1) Uncrate on a level floor, as close to installing site as possible. Use a forklift to move crate.

2) Crate dimensions are: 100 x 41 x 79" (2540 x 1041 x 2006 mm).

3) Crate maximum weight is 1100 lbs (499 kg).

⚠ WARNING – LACERATION HAZARD: When removing bolts, wear gloves to protect your hands.

1. Verify Tip'N Tell indicator located outside crate (see Figure 2-1). Tip indicator contains a blue compound at the bottom of the indicator. If unit has been tipped, residue from the blue compound will be found higher up in the indicator. If unit has been tipped, notify STERIS to arrange to have a service technician review the equipment and determine if unit was damaged.
2. Assure crate is positioned so it can be opened from the top. Provide a clear work area on all sides.
3. Carefully cut and remove bands from crate. Discard bands before continuing.
4. Using a nail puller, remove and discard top wooden panel.
5. Remove and discard side wooden panels.
6. Remove and discard polystyrene wrap from around unit.

2.1.2 Move Unit and Remove Skid

⚠ WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: When moving the unit, use a forklift.

1. With the unit still mounted on the skid, position forklift under unit frame and move unit to installation site.
2. Unscrew and discard lag bolts holding unit to wooden shipping base.
3. Pull out and discard base.

2.1.3 Prepare Unit for Installation

1. Remove all tape and/or foam packing from Bottle Filler.
2. Remove tape securing drain cap to sump.
3. Slide Filler Header Manifold (accessory) into connection.

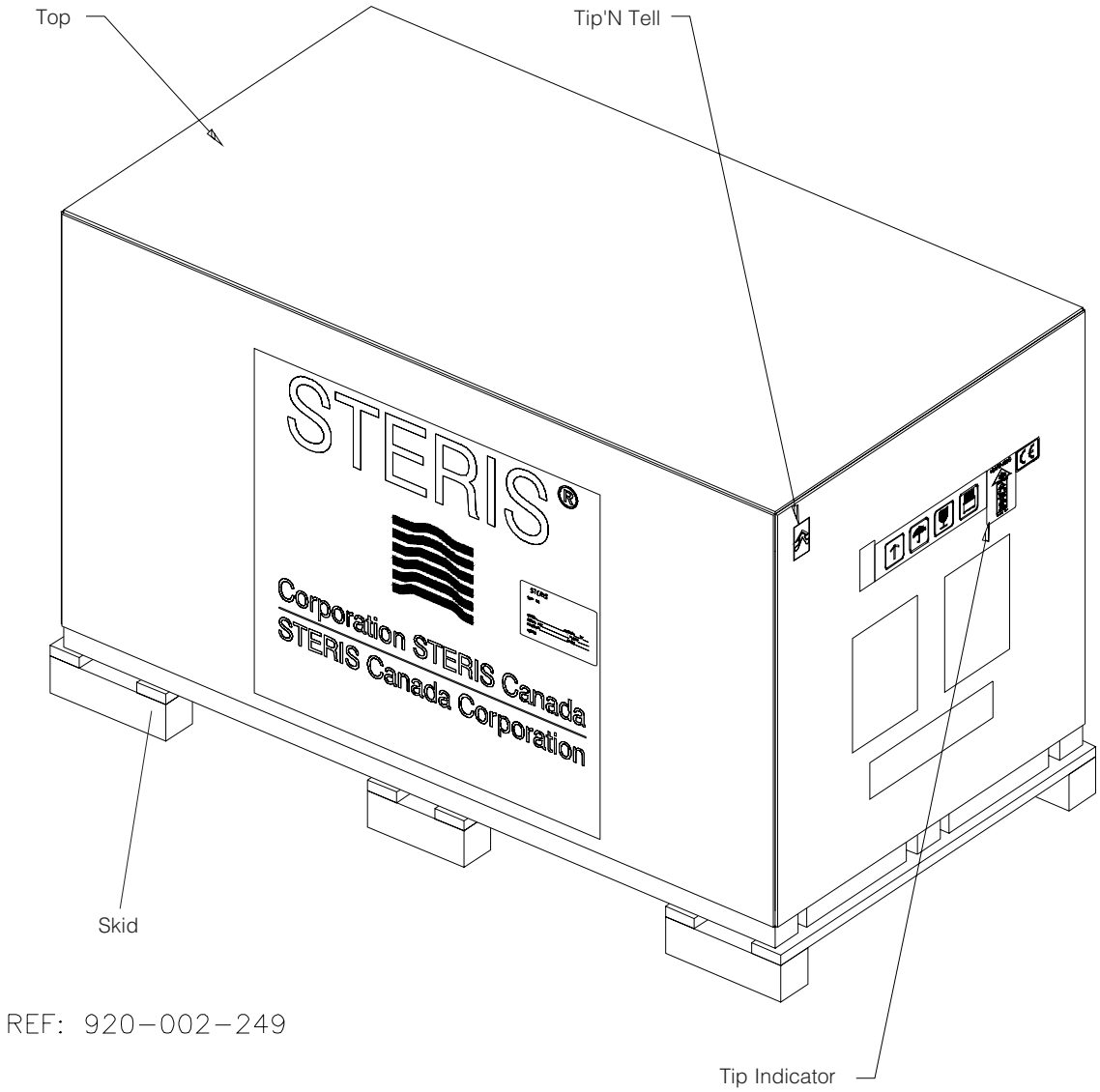

Figure 2-1. Crate

2.2 Installation Instructions

2.2.1 Before Installing Equipment

1. Review the installation requirements:
   a. Clearance - The clearance space shown on the equipment drawing indicates the space necessary for easy installation and proper operation and maintenance of the Basil® 1100 Bottle Filler.
   b. Utility service lines:
      - Disconnect switch (not by STERIS) must be installed in the electric supply line near the bottle filler (see Figure 2-2). Disconnect switch must be capable of being locked in the OFF position only.
      - If this machine is installed next to other equipment, disconnect switch should be located so that service can be shut off to one piece of equipment at a time.
      - Utility service requirements are as shown on the equipment drawing. Verify the equipment drawing or identification plate (located over electrical box cover) for proper voltage.
2. Assure the unit is placed, as shown on equipment drawing, in correct relation to building supply lines.

   NOTE: If unit is not at the installation site, refer to Uncrating Instructions (see Section 2.1.2) for proper moving instructions.
3. Verify that the bottle filler is level.
   a. Place a spirit level end-to-end and side-to-side on top of filling area.
   b. If necessary, level the unit end-to-end and side-to-side, by adjusting the leveling legs.
4. Unit is installed on Non-slip floor surface.

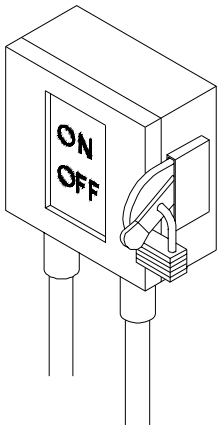

Figure 2-2. Disconnect Switch

2.2.2 Technical Specifications

These specifications are intended to describe the technical information given on the nameplate of your unit and to state other relevant information. Verify Equipment Drawing or nameplate, for proper voltage and amperage.

- **Voltage, Amperage, and Power Consumption**

The **Basil 1000 Bottle Filler** operates on:

- 120 V~, 60 Hz, 1-phase, 2-wire

- Maximum current and power consumptions are:
  - 120 V~, 10A, 1.2 kW

- **Permissible Environmental Conditions**

This equipment is designed to give optimal results in an indoor environment where temperature is maintained between 41-104°F (5-40°C) and where maximum relative humidity is 80% for temperatures up to 88°F (31°C), decreasing linearly to 50% relative humidity at 104°F (40°C).

- **Seismic Anchorage System**

A Seismic Tie Down System is available for high risk seismic zones.

2.2.3 Install Anchorage System

Once unit is level, install anchorage system as follows:

1. Mark floor holes position. (If anchoring brackets do not touch the floor, use shims.)
2. Using a forklift, move the unit to clear area.
3. Drill holes in floor.
4. Using a forklift, bring unit back into position.
5. Bolt brackets into position using bolts provided.

2.2.4 Connect Utilities

1. **DRAIN** - Connect building waste line to unit drain line.
2. **COLD WATER** - Connect cold water supply line from building to unit as described in the Equipment Drawing.
3. **ELECTRICITY** - Connect building electrical supply line to unit electrical supply box as described in the Equipment Drawing.

2.2.5 Cleanup

1. Remove any adhesive found on panels with a small amount of nonflammable cleaning solvent. Keep solvents away from all painted surfaces or damage may result.
2. Remove all protective paper from the unit cabinet panels. Slowly peel paper away from stainless steel to reduce the level of static discharge.
3. Inspect filler head and filling area to assure all materials used during installation have been removed.

⚠ WARNING – HEALTH HAZARD: Vapors from solvent can be harmful. Use with adequate ventilation. Follow directions on the container.

⚠ CAUTION – POSSIBLE EQUIPMENT DAMAGE: When removing adhesives from stainless steel, use a solvent specially formulated for that purpose. Rub in a back-and-forth motion (in same direction as surface grain). Solvent rubbed in a circular motion or applied with a wire brush or steel wool on assemblies can be harmful to stainless steel. Do not use solvents on painted surfaces.

THIS COMPLETES THE INSTALLATION. Before operating equipment, confirm that all items on installation checklist have been satisfactorily implemented and operational test is conducted by a qualified service technician. Follow procedure described in Section 4.2, *Bottle Filler Operation*, to test unit operation.

2.3 Installation Checklist

After installing the unit, complete the following checklist to assure complete and correct installation. Contact STERIS to schedule a demonstration of proper equipment operation.

- ❑ Shutoff valve (not provided by STERIS), for maintenance purposes, is installed on the water line and is in compliance with local codes.
- ❑ Disconnect switch, capable of being locked in OFF position only, is installed on electrical supply line near the unit and in compliance with local codes.

NOTE: If unit is installed next to other equipment, shutoff valve and disconnect switch should be located so that service can be shut off to one piece of equipment at a time.

- ❑ Feeder Bottle Filler is positioned, as shown on floor plan, with required clearance space and in relation to building water supply line.
- ❑ Feeder Bottle Filler is level. If necessary, use adjustable feet and/or add shims (not included) to level unit.
- ❑ Building waste line is connected to unit as specified on equipment drawing.
- ❑ Non-slip floor surface (not provided by STERIS) around unit.

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3.1 Component Identification

Become familiar with all component and control locations and functions before operating the Basil® 1100 Feeder Bottle Filler (see Figures 3-1 and 3-2).

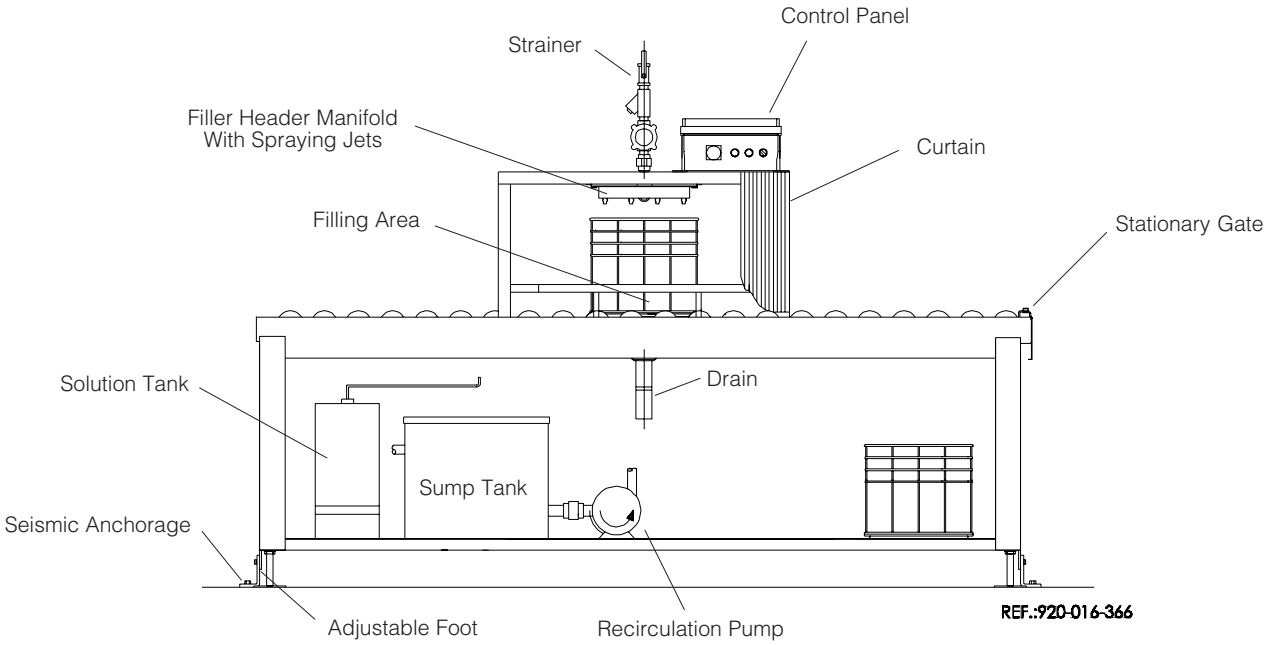

Figure 3-1. Basil 1100 Feeder Bottle Filler - Base Unit

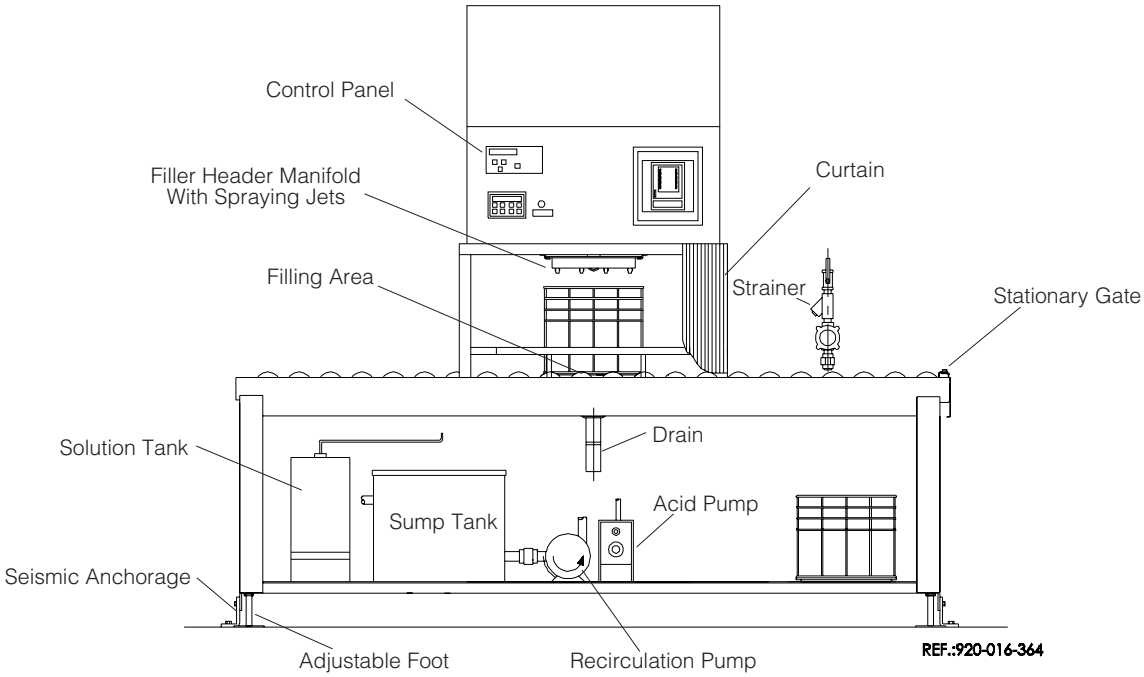

Figure 3-2. Basil 1100 Feeder Bottle Filler - Acid Proportioner Unit

3.2 Control Panel

3.2.1 Base Units

Electrical control panel on base units is composed of the following (see Figure 3-3):

- **Main Power ON/OFF selector switch**;
- **START-MAN Pushbutton** - For Manual Operation, press and hold green lighted START-MAN pushbutton to obtain desired filling level for bottles;
- **START-AUTO Pushbutton** - For Automatic Operation, press blue lighted pushbutton to activate timer;
- **Timer** - Set desired filling time to automatically fill the bottles.

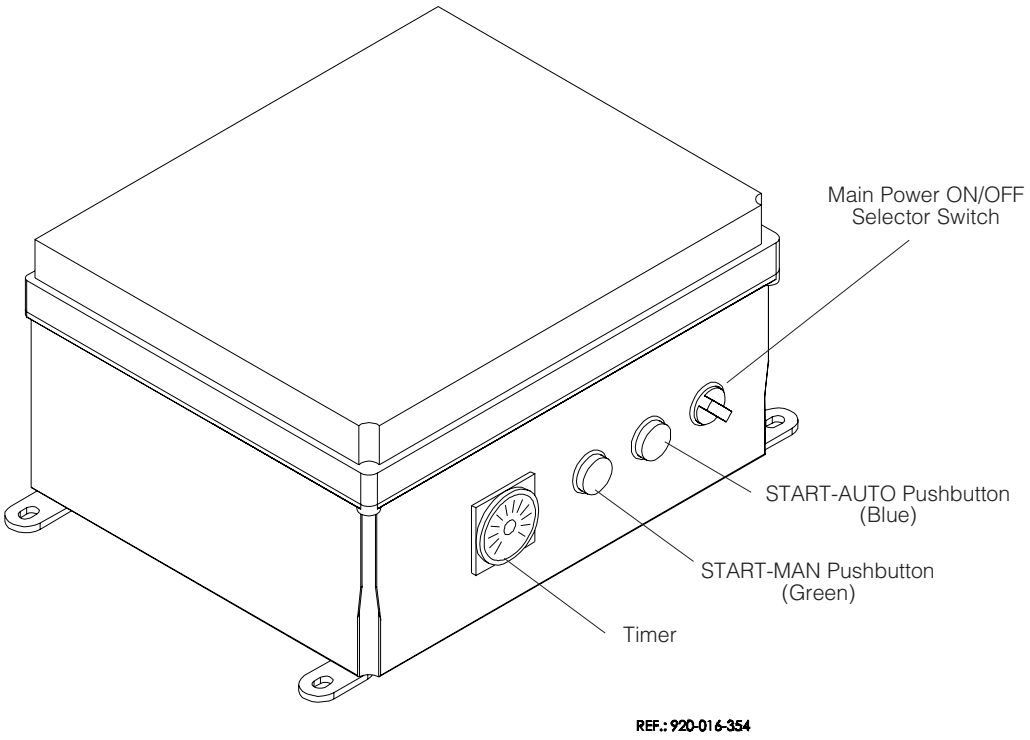

Figure 3-3. Control Panel - Base Units

3.2.2 Acid Proportioner Units

NOTE: For further information regarding the acid proportioner, please refer to manufacturer's instructions (provided).

Control panel on Acid proportioner units is composed of the following (see Figure 3-4):

- **STOP button** - To stop unit operation. When released by twisting, STOP button will cause the display to show STANDBY and unit will be ready to start again;
- **Alphanumeric Display** - To monitor the unit's operations;
- **FUNCTION/SELECT button** - To select a function or a function value;
- **SET/SAVE button** - To set a function value and/or save it;
- **FILL/PURGE button** - To select fill or purge cycle;
- **SILENCE button** - To silence the alarm buzzer.

3.2.3 pH Monitor

pH Monitor analyzes the pH of all solutions before being dispensed to the bottles. Monitor includes a display from which the operator can take the pH readings.

NOTE: The pH Monitor touch pads are for use only by a trained technician, to perform service procedures such as calibration, etc.

3.2.4 pH Strip Printer

pH Strip Printer provides a printed record of solution pH levels being dispensed to the bottles. The printer uses pressure-sensitive paper (see Section 7, *Illustrated Parts Breakdown*, for reordering information), which may be rewound on the roller as it is used, or torn off in sections and maintained.

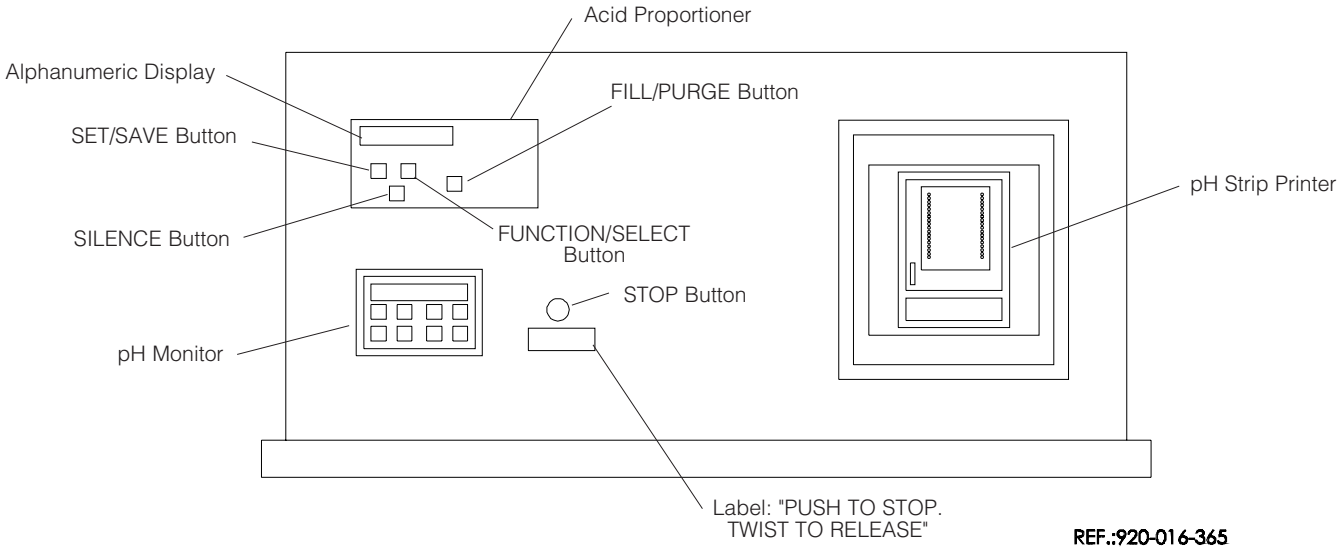

Figure 3-4. Acid Proportioner, pH Monitor, and pH Strip Printer

3.3 Accessories

Stainless-steel manifold headers can accommodate different bottle/basket sizes. Each manifold has individual stainless-steel jets for each bottle. It connects to Bottle Filler by a quick-disconnect clamp.

3.3.1 Filler Header

- **5 x 5 Filler Header** (Figure 3-5):

  Dimensions: 14-3/4 x 16-3/4 x 2-3/4" (370 x 430 x 70 mm)

  Coverage: 25 bottles

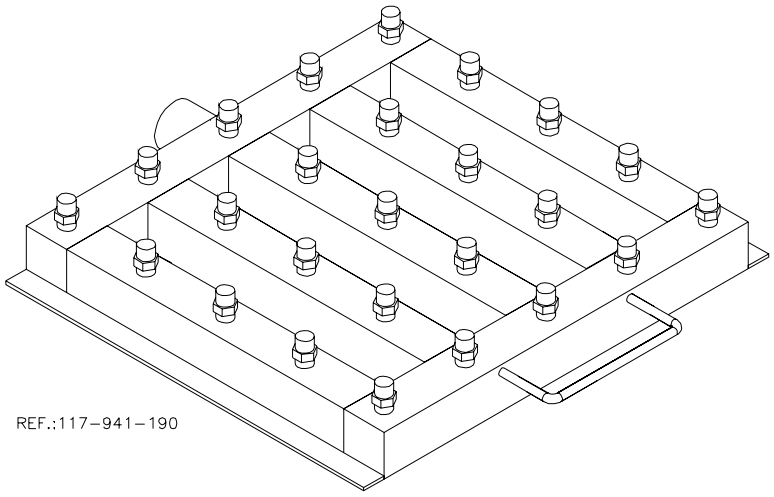

Figure 3-5. 5 x 5 Filler Header

- **4 x 6 Filler Header** (Figure 3-6):

  Dimensions: 11-1/2 x 20-1/2 x 2-3/4" (290 x 520 x 70 mm)

  Coverage: 24 bottles

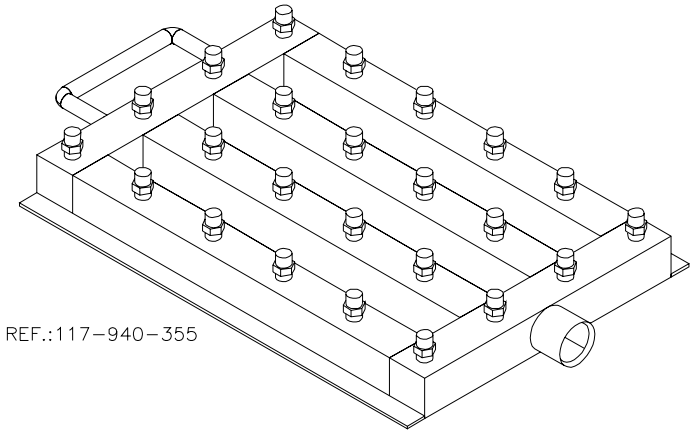

Figure 3-6. 4 x 6 Filler Header

3.3.2 Bottle Baskets

Stainless-steel bottle baskets can accommodate different bottle sizes. Refer to Figures 3-7 Through 3-10.

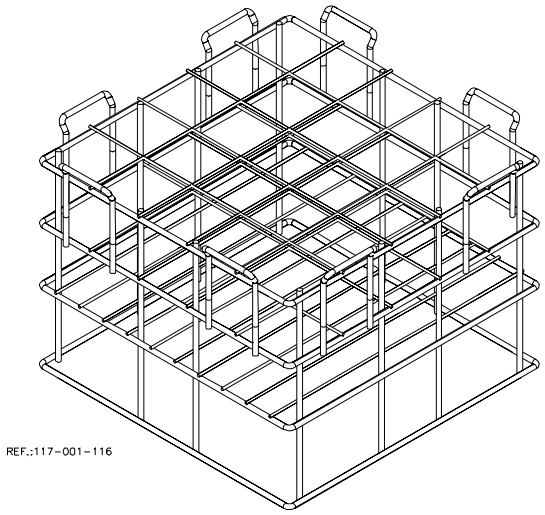

Figure 3-7. 5 x 5 Bottle Basket (16 oz bottles [454 mL])

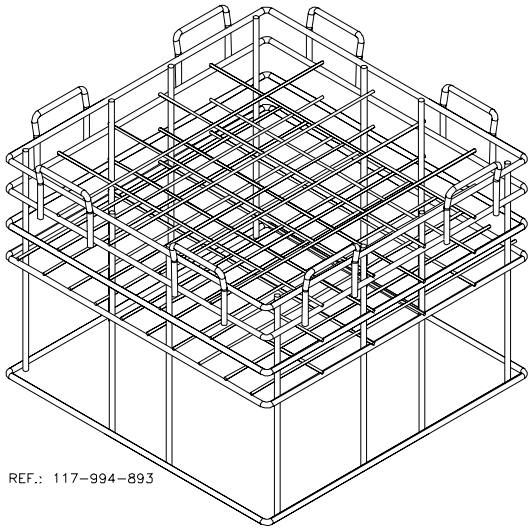

Figure 3-8. 5 x 5 Bottle Basket (8 oz bottles [227 mL])

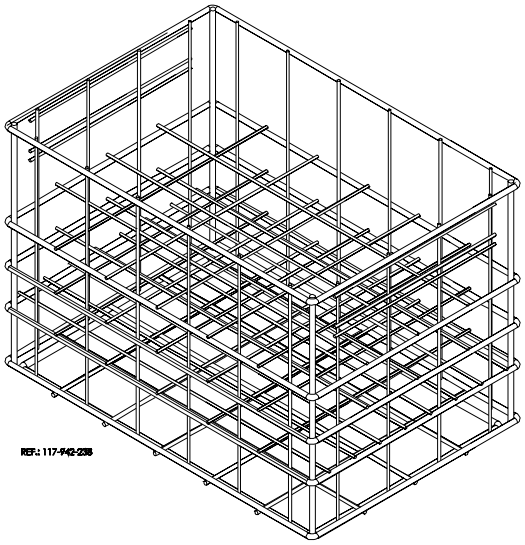

Figure 3-9. 4 x 6 Bottle Basket (16 oz bottles [454 mL])

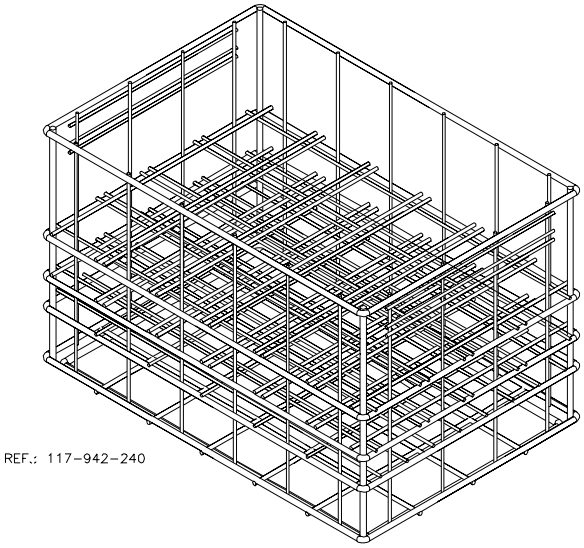

Figure 3-10. 4 x 6 Bottle Basket (8 oz bottles [227 mL])

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4.1 Before Operating Acid Proportioner Unit

NOTE: Refer to Section 3 for component location.

4.1.1 How to Set a Function

1. Verify that unit shutoff valve (water) is open.

The **FUNCTION/SELECT** button permits the selection of the five different functions: Priming, Water Type, Purge Time, Filling Time, and Time Settings.

To set a particular function:

1. Press the **FUNCTION/SELECT** button to tell the controller you would like to set this function. The display will show the present value of the function selected.
2. To change the selected value, press the **FUNCTION/SELECT** button until the desired value appears on the display.
3. Then press the **SET/SAVE** button to tell the controller to save this choice.

4.1.2 How to Prime the Injection Pump

Prime the injection pump as follows:

1. Display must show:

STANDBY

*NOTE: If display does not show **STANDBY**, press Red **STOP** button and twist to release.*

2. Check to see if plain or treated water has been selected:

⚠ CAUTION– POSSIBLE EQUIPMENT DAMAGE: When choosing chemicals, to be added to the water, choose ones which have low viscosity and which have no abrasives or particles that would tend to gum or clog the Acid Proportioner System.

- Press **FUNCTION/SELECT** button. Display shows:

WATER

- Press **SET/SAVE**. Display will show:

PLAIN

or

TREATED

- If display shows: **TREATED**, press **SET/SAVE** again. Display will return to: **STANDBY**.
- If display shows: **PLAIN**, press **FUNCTION/SELECT**. Display will change to **TREATED**. Press **SET/SAVE**. Display will show **STANDBY**.

⚠ WARNING – CHEMICAL BURN AND/OR EYE INJURY HAZARD: When filling bottles, always wear gloves that are appropriately resistant to the chemicals being used.

3. To prime injection pump, fill solution tank with approximately one gallon of water, or enough to cause the display to stop flashing **CHEMICAL TANK LOW**.
4. Press **SET/SAVE**. Display shows:

PRIME?

5. Press **SET/SAVE** again. Display shows:

PRIMING

...and the injection pump will begin to pump.

6. Loosen the tube fitting at the injection valve and remove tube from fitting.
7. Insert tube into a container. This will make it easier for the pump to complete priming.

NOTE: Since solution tank is near floor level, placing tank at the same level as the pump or higher will speed priming greatly.

8. The injection pump is primed when all the air bubbles are out of the solution tubing and water is coming out of tube, into the container.
9. Press **FUNCTION/SET**. The injection pump will stop and display will show **STANDBY**.
10. Reconnect the tube at the injection valve. Proportioner is now ready.

4.1.3 How to Change Water Type

Display can show either **READY** or **STANDBY**.

1. Press **FUNCTION/SELECT**. Display shows:

WATER

2. Press **SET/SAVE**. Display will show:

TREATED

or

PLAIN

3. Press **FUNCTION/SELECT** to select other water type.
4. Press **SET/SAVE**. There will be three rapid beeps, and display shows:

STANDBY

5. The unit will now dispense type of water selected.

NOTE: Anytime the proportioner is changed from plain to treated water or vice versa, the proportioner will go into Standby mode. A Purge cycle must be performed before filling a rack of bottles. The Purge cycle purges the mixing chamber, piping, and manifold of the previously chosen type of water.

4.1.4 How to Set Purge Time

NOTE: Purge is used for two different purposes:
1) To purge piping and manifold of all the previously selected water type before filling the next rack of bottles with the new type of water selected.

2) To assure uniform bottle filling after unit has been sitting idle for more than five minutes since the previous fill cycle.

1. Display shows:

READY

or

STANDBY

2. Press **FUNCTION/SELECT** until display shows:

PURGE TIME

3. Press **SET/SAVE**. Current purge time is displayed. Tenths of seconds are flashing.
4. Press **FUNCTION/SELECT** until the desired tenths of seconds is displayed.
5. Press **SET/SAVE**. Seconds are flashing.
6. Press **FUNCTION/SELECT** until desired seconds is displayed.
7. Press **SET/SAVE**. Minutes are flashing.
8. Press **FUNCTION/SELECT** until desired minutes value is displayed.
9. Press **SET/SAVE**. The controller will emit three rapid beeps and display will go to **READY** or **STANDBY**.

4.1.5 How to Select Filling Time

Two different preset filling times can be adjusted so that two different size bottles can be filled during separate cycles. The two filling times are identified as "A Time" and "B Time". To select the filling time, proceed as follows:

1. When displays shows **READY** or **STANDBY**, press **FUNCTION** twice. Display shows:

FILL TIME

2. Press **SET/SAVE**. Display shows:

A TIME

or ...

B TIME

3. Press **FUNCTION** to select desired time.
4. Press **SET/SAVE** to confirm the selection. There will be three rapid beeps and display goes back to **READY** or **STANDBY**.

4.1.6 How to Change Filling Time Settings

To change the filling time length A or B, proceed as follows:

1. When displays shows **READY** or **STANDBY**, press **FUNCTION** until display shows desired time:

A TIME

or..

B TIME

2. Press **SET/SAVE** once. Display will show the present time in minutes, seconds and tenths of seconds:

0:00:0

__ *Indicates flashing position.*

3. To change value of the flashing digit, press **FUNCTION/SELECT** until desired value is displayed.
4. Press **SET/SAVE**. Next digit flashes. Follow same procedure to set all four time digits.
5. Press the **SET/SAVE** button to save time selection. Then, the controller will beep three times and display will shown **READY** or **STANDBY**.
6. Once unit is in **READY** mode, retest fill time with a bottle rack in the fill area.
7. Repeat **Steps 1 trough 6** to set **B TIME**.

4.2 Bottle Filler Operation

4.2.1 Base Units

1. Assure that **ON/OFF** selector switch is positioned to **ON**.
2. Set timer for desired fill time, depending on size of bottles. A few trials with a basket in filling area may be necessary to determine appropriate fill time.
3. When ready, push a basket under filling head.
4. Press blue pushbutton once to fill bottles.
5. When bottles are filled, release basket from basket stopper and push basket out of filling area.
6. At the end of shift, position **ON/OFF** selector switch to **OFF**.
7. Clean as described in Section 5, *Routine Maintenance*.

4.2.2 Acid Proportioner Units

1. If display shows **STANDBY**, press **FILL/PURGE**. Assure bottle fill area is empty.
2. Press **FILL/PURGE**. System will purge for the purge time set (default is 25 seconds).
3. When display shows **READY**, position a rack full of bottles in the fill area.
4. Press **FILL/PURGE**. Display counts down the time programmed (default time is 5 seconds for **A TIME** and 10 seconds for **B TIME**).

⚠ WARNING – CHEMICAL BURN AND/OR EYE INJURY HAZARD: When filling bottles, always wear gloves that are appropriately resistant to the chemicals being used.

NOTE: When filling the bottles, note the following:

1) Fill times may vary somewhat, depending on the size of the bottles.

2) If time is set to zero and an attempt is made to purge or fill, display will show NO TIME, then time must be set (refer to Section 4.1.6, How to Change Filling Time Settings).

3) Operation of the unit may be stopped at any time by pressing STOP. Display will go blank. Twist STOP button to release it and return proportioner to Standby mode.

4.3 Standby Mode (Acid Proportioner Units)

After a rack of bottles is filled, an internal timer begins counting down for five minutes. If another fill cycle is run, the timer resets to five minutes and begins counting down again. If the timer counts down five minutes without beginning another fill cycle, then proportioner will switch into Standby mode. Display will show: **STANDBY**, and pump will shut off.

NOTE: Pump runs continuously while proportioner is in ready mode.

Clean unit as described in Section 5, *Routine Maintenance*.

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5.1 General

⚠ WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD:

- **Regularly scheduled preventive maintenace, in addition to the faithful performance of the minor maintenance described within this manual is required for safe and reliable operation of this equipment. Contact STERIS to schedule preventive maintenance.**
- **Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage.**

⚠ WARNING – SLIPPING HAZARD: To prevent slips, keep floors dry. Promptly clean up any sills or condensation.

Procedures described in this section should be performed at regular intervals as indicated. Local conditions (water quality, usage, etc.) may require more frequent maintenance than indicated. The interval frequency should be increased with increased usage of the equipment. Customer should maintain a record of all maintanace procedures performed on the unit.

Should a problem occur, refer to Section 6, *Troubleshooting*. Refer to Section 7, *Illustrated Parts Breakdown*, for replacement parts list.

A preventive maintenance agreement is available to assure peak equipment performance and avoid unscheduled downtime. The agreement includes maintenance adjustments and replacement of worn parts by a qualified technician on a scheduled basis. Contact STERIS for further details. Maintenance procedures should be performed only by a qualified technician. Service charges may be incurred. Consult your warranty for details.

Never permit unqualified persons to service the Bottle Filler.

5.2 Preventive Maintenance

Table 5-1 is to be used as a preventive maintenance record and, along with the instructions in this section, as a guide to performing preventive maintenance. Preventive maintenance is not covered under warranty.

Table 5-1. Preventive Maintenance

SERVICE PERFORMED		Min. Frequency
1.0	**PREPARATION FOR PREVENTIVE MAINTENANCE**	
1.1	Discuss equipment with operators.	6 x per year
1.2	Follow appropriate safety procedures: prepare unit for Preventive Maintenance.	6 x per year
2.0	**PIPING COMPONENTS**	
2.1	Verify each hand valve operates easily; check valve packing for leaks; rebuild or replace as needed.	6 x per year
2.2	Rebuild fill water solenoid valve, if equipped.	1 x per year
2.3	Inspect cold water strainer for debris; clean if needed.	6 x per year
2.4	Inspect drain strainer for debris; clean if needed.	6 x per year
2.5	Check for plugged headers and jets; clean if needed	6 x per year
2.6	Verify proper alignment of spray jets.	6 x per year
3.0	**MECHANICAL SYSTEMS**	
3.1	Inspect rollers for wear.	6 x per year
4.0	**FINAL CHECKOUT AND TEST**	
4.1	Clean dirt and lint from components. Check all wiring, terminals, and socket connections for damage or fraying.	6 x per year
4.2	Verify that unit has proper labels (CAUTION, WARNING).	6 x per year
4.3	Run a one-minute Fill Cycle to verify proper operation.	6 x per year
4.4	Reinstall any panel or cover removed. Check area to assure removal of all materials used during inspection.	6 x per year
4.5	Notify customer that Preventive Maintenance inspection is complete.	6x per year

5.3 Cleaning

⚠ WARNING – CHEMICAL BURN AND/OR EYE INJURY HAZARD: Wear gloves and eye protection when using a descaling product. Avoid contact with eyes or skin. If spilled or splashed, flush with plenty of water for 15 minutes. If swallowed, DO NOT induce vomiting. Administer an alkali with plenty of water. Seek medical attention immediately.

STERIS recommends the use of the following cleaning products (see Section 7, *Illustrated Parts Breakdown*, for ordering information).

- **Amscrub™ Multipurpose Cleaner** - for routine cleaning and polishing of unit.
- **PRY® Stain Remover Cream**, for stubborn stains.
- **Stainles Steel Cleaner** - for clenaing stainless-steel surfaces.
- **Liquid Descale** - for removing scale and other hard water deposits from unit.

NOTE: Follow manufacturer's recommendations for proper product use (concentrations, precautions to be taken, etc). Read the MSDS for safety information.

5.3.1 Daily Cleaning

- **Filler Header Manifold:**

At the end of each day, visually inspect each filler manifold jet by looking into each jet opening or by observing the spray pattern of each jet during operation. If a jet appears to be clugged or partially blocked:

1. Push wire (of smaller diameter than the jet orifice) through each jet that appears to be plugged.
2. Remove jet from each corner and turn unit on.
3. Replace jets and test for additional blockage.
4. If blockage remains, repeat process until jets are clear.

- **Rollers and Sump:**

Before cleaning or servicing conveyor rollers or sump, it is necessary to remove a few rollers:

1. Remove plastic spacers located on side of rollers (see Figure 7-3).
2. Pull roller assembly inward (towards yourself).
3. Place left hand on roller white collar to hold collar firmly in place.
4. Push roller forward, pulling opposite end of roller up and away from conveyor and roller shaft.
5. Repeat **Steps 1 trough 4** for each roller to be removed.
6. Clean rollers in hot water using a mild detergent.
7. Rinse under running water.
8. Dry each roller using a clean, dry, lint-free cloth.
9. Repeat for each roller.
10. Remove plug from drain to drain accumulated water from sump.

11. Using a damp cloth or sponge, apply cleaner on sump panels in a back and-forth motion.
12. Thoroughly wipe off cleaner.

After cleaning conveyor rollers, it is necessary to reassemble rollers as follows:

1. Insert roller on roller shaft (pulling inward towards you).
2. Push roller assembly on conveyor shaft, white collar included.
3. Turn white collar until it locks in position over shaft.
4. Reinsert roller spacers.
5. Repeat **Steps 1 trough 4** for each roller to be reinstalled.

5.3.2 Weekly Cleaning

CAUTION – POSSIBLE EQUIPMENT DAMAGE: Use non -abrasive cleaners when cleaning unit. Follow directions on containers and rub in a back-and-forth motion (in same direction as surface grain). Abrasive cleaners will damage stainless steel. Cleaners rubbed in a circular motion or applied with a wire brush or steel wool can be harmful to stainless steel. DO not use these cleaners on painted surfaces.

1. Clean Filler Header manifold, sump and rollers as previously described.
2. Clean Basil® 1100 Feeder Bottle Filler exterior using Amscrub for general stains and Pry Stain Remover Cream for stubborn stains.
3. Using a damp cloth or sponge, apply cleaner in a back-and-forth motion, in same direction as surface grain.
4. Thoroughly wipe off cleaner.
5. Polish surface with a clean, dry, lint-free cloth.

5.3.3 Monthly Cleaning

⚠ WARNING – CHEMICAL BURN AND/OR EYE INJURY HAZARD:

- **Wear gloves and eye protection when using a descaling product. Avoid contact with eyes or skin. If spilled or splashed, flush with plenty of water for 15 minutes. If swallowed, DO NOT induce vomiting. Administer an alkali with plenty of water. Seek medical attention immediately.**
- **Liquid descaler is corrosive and can cause adverse effects to exposed tissues. Do not get into eyes or skin or attempt to swallow. Avoid breathing of mists.**
- **Read and follow the precautions and instructions on the label and in the Material Safety Data Sheet (MSDS) prior to use.**
- **Wear protective clothing, gloves, and face shield when using descaler. If Descaler contacts skin or eyes, immediately flush with running water for 15 minutes. Seek medical attention.**
- **Use adequate ventilation. In case of inhalation, remove to fresh air and call a physician.**

Remove hard water deposits from conveyor sump as follows:

NOTE: Depending on hardness of water being used, it may be necessary to remove hard water deposits more often. Remove deposits from sump whenever deposits become visible.

1. Remove a few rollers as described in Section 5.3.1, *Daily Cleaning*.
3. Pour a small amount of Liquid Descale on a damp cloth, and rub each sump surface in a back and forth motion (same direction as surface grain) to remove hard water deposits.
5. Thoroughly wipe off cleaner.
6. Remove plug from sump.
7. Rinse off cleaner with water (using a hose, for example).
8. Reinstall plug in drain hole.
9. Clean rollers as previously described and reinstall.

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TROUBLESHOOTING

6

⚠ WARNING – PERSONAL INJURY AND/OR EQUIPMENT DAMAGE HAZARD: Only fully qualified service personnel should assemble and/or make adjustments to this equipment. Assembly or adjustments done by inexperienced, unqualified personnel could cause personal injury or result in costly damage.

⚠ WARNING – ELECTRIC SHOCK AND/OR BURN HAZARD: Disconnect all utilities to equipment before servicing. Do not service the equipment unless all utilities have been properly locked out. Always follow electrical safety-related work practices and standards.

- **Disconnect main power switch before opening cover and working on electrical components.**
- **For continued protection against fire hazard, replace only with same type and rating of fuse.**

⚠ WARNING – SLIPPING HAZARD: To prevent slips, keep floors dry. Promptly clean up any spills or condensation.

This section describes the types of Basil® 1100 Feeder Bottle Filler malfunctions likely to occur and indicates probable causes and corrective actions.

If you are unable to correct the problem with use of the **Table 6-1**, Troubleshooting Chart, or if a problem occurs that is not described on the chart, please call STERIS. A factory-trained technician will promptly place your equipment in proper working condition. Service charges may be incurred. Consult your warranty for details.

NOTE: Never permit unqualified persons to perform service on the bottle filler.

Table 6-1. Troubleshooting Chart

PROBLEM	TO CORRECT
1. No water flow when green button (Base Units) or FILL/PURGE button (Acid Proportioner Units) is pressed.	Call STERIS*.
2. During purge or fill, display shows NO TIME (Acid Proportioner Units).	Time must be set to other value than zero. Set time as required.
3. Display shows CHECK WATER SUPPLY, none of the controls operate (Acid proportioner).	Tank has not filled within 5 minutes. Verify water shutoff valve is open and water is supplied at pressure specified on floor plan. After water is turned on, push STOP then release it to restore normal operation. If condition recurs, call STERIS*.
4. Display shows CHEMICAL TANK LOW (unit with optional acid Proportioner Units).	Silence alarm by pressing SILENCE. Check chemical supply. Replace if necessary.
5. Display shows an error message alternating with pH reading (unit with optional pH analyzer).	Call STERIS*.

** Service charges may be incurred. Consult your warranty for details.*

ILLUSTRATED PARTS BREAKDOWN

7

Significant assemblies and components of the Basil® 1100 Feeder Bottle Filler are illustrated and identified in this section. The part number, the description, and the quantity required for each usage are given. Each indentation in the description represents the assembly level. The UNITS PER ASSEMBLY column is specific for the given assembly or subassembly level.

Use only STERIS authorized parts on this equipment. Use of unauthorized parts will void the warranty. To reorder replacement parts and/or supply products, proceed as follows:

1. Determine the function and application of the part required. Select the most appropriate illustration.
2. From the illustration, obtain the item number assigned to the desired part. Refer to the accompanying tabular list (usually on the facing page) for the part number and description of the part.
3. Include the part number and description of your equipment on your order.
4. Include the model and serial numbers of your equipment in your order.
5. Send your order directly to the STERIS Sales and Service Center serving your area.

Contact STERIS if you need parts that are not listed.

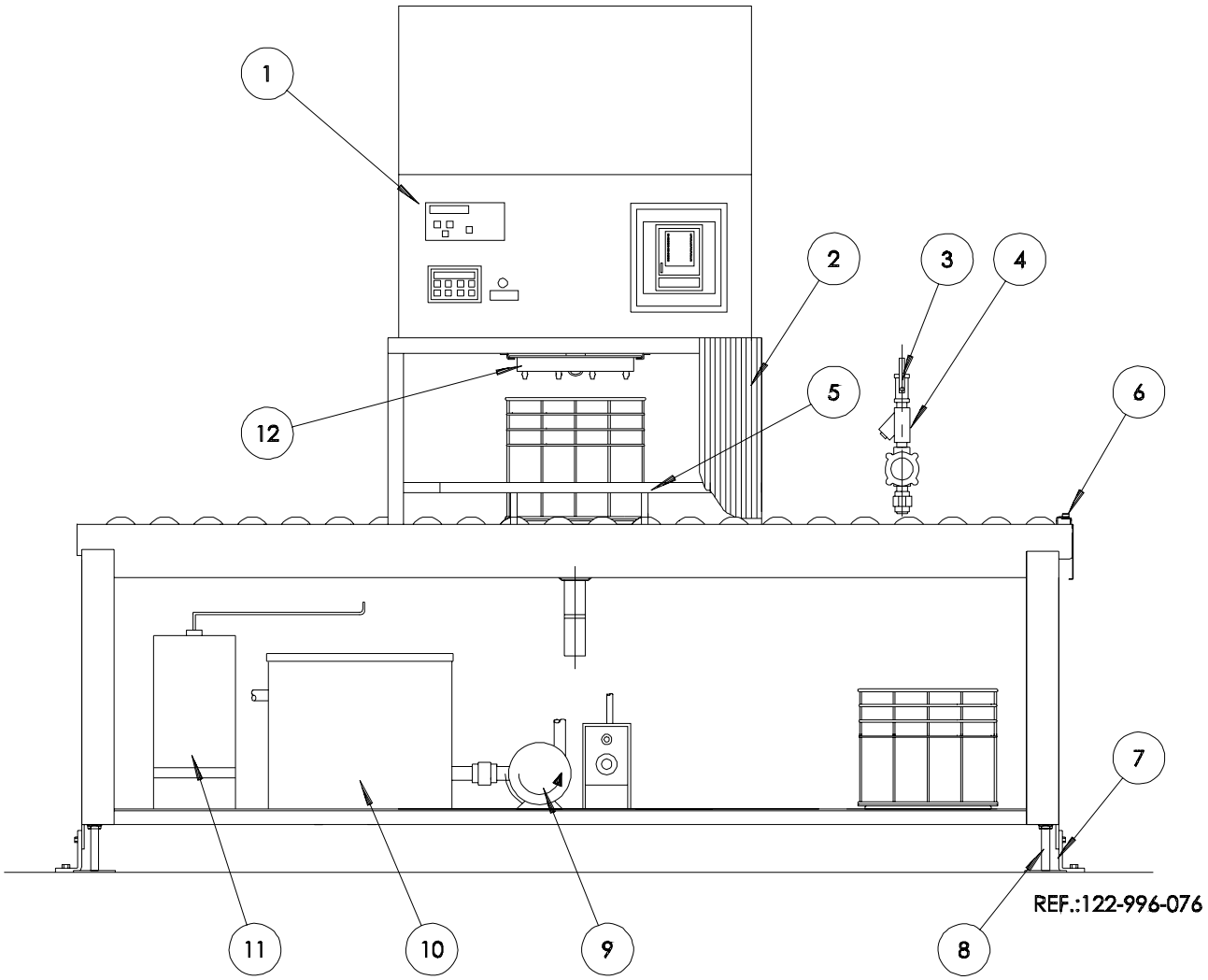

Figure 7-1. Basil 1100 Feeder Bottle Filler - Acid Proportioner Unit Shown

FIG. & ITEM NO.	PART NUMBER		DESCRIPTION	UNITS PER ASSEMBLY
7-1			**BASIL 1100 Feeder Bottle Filler – Acid Proportioner Unit .....**	**X**
1			PANEL, CONTROL	1
	117913	096	LED, RED, 120V #M22-LED230-R	1
	117913	080	LED, GREEN, 120V #M22-LED230-G	1
	117913	092	LED, BLUE, 120V #M22-LED230-B	1
	117913	079	HEAD, ILLUMINATED BUTTON GREEN #M22-DL-G	1
	117913	094	HEAD, ILLUMINATED BUTTON BLUE #M22-DL-B	1
	117913	081	CONTACT BLOCK, N.O. ASS #M22-AK10	1
	117913	095	BUTTON, SEL 2 POS ILLIMUNATED#M22-WRLK-R	1
	117913	020	TIMER, MULTI-FUNCTION, NEMA4X B846-500	1
	117942	548	• PROBE, PH	1
	117912	292	PROPORTIONER, ACID/MON/RECORD BFP674 60HZ	1
	117942	595	• BUTTON, STOP	1
2	117990	354	CURTAIN, 36"	2
3	117950	631	VALVE, MANUAL BALL, S/S, 3/4F	1
4	117951	157	STRAINER, S/S, 3/4"	1
5	117994	288	STOPPER, BASKET	1
6			GATE, STATIONARY (SEE FIGURE 7-2)	2
7	117990	573	ANCHORAGE, SEISMIC	4
8	117940	260	LEG, ADJUSTABLE	4
9			TANK, SOLUTION	1
	117942	597	• SENSOR, WATER LEVEL	1
10	117942	590	PUMP, RECIRCULATION	1
	117942	599	• KIT, REPAIR	A/R
	117942	600	• O-RING	A/R
11			TANK, SUMP	1
	117942	598	• SENSOR, WATER LEVEL	1
12	117941	192	HEADER, 4 X 6, S/S	A/R
	117941	176	HEADER, 5 X 5, S/S	A/R
	117941	092	• JET, SPRAYING, S/S	A/R

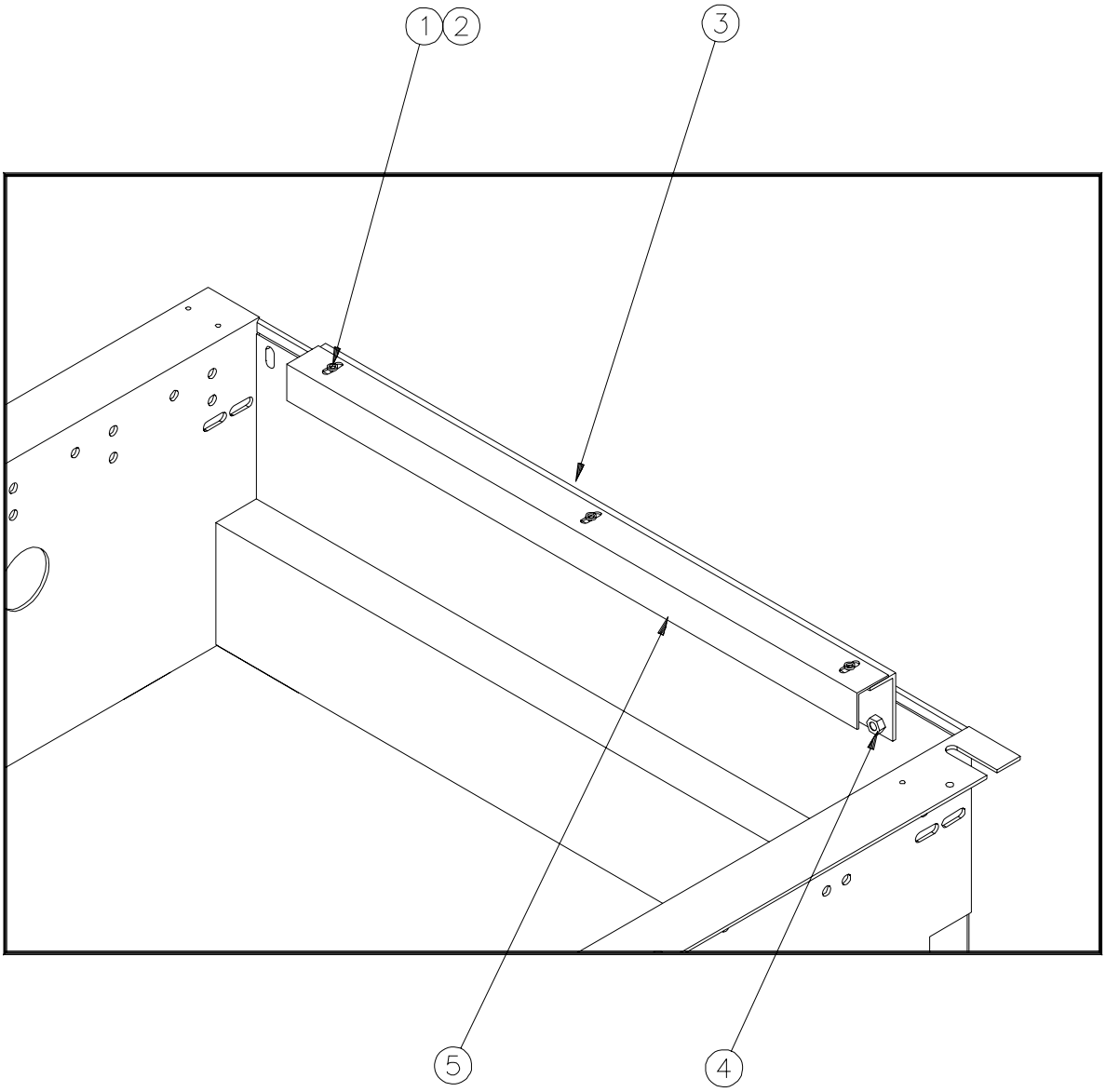

Figure 7-2. Stationary Gate Assembly

FIG. & ITEM NO.	PART NUMBER		DESCRIPTION	UNITS PER ASSEMBLY
7-2			**STATIONARY GATE ASSEMBLY**	**X**
1	117950	866	SCREW, S/S, TRUSS HEAD, 10-32 X 3/8"	3
2	117950	976	WASHER, S/S, 1/4"	3
3	117984	710	GATE, STATIONARY	1
4	117950	952	NUT, S/S, 1/4-20	2
	117950	899	BOLT, S/S, 1/4-20 X 1/2" (NOT SHOWN)	2
5	117984	732	ANGLE, STATIONARY GATE ADJUSTABLE	1

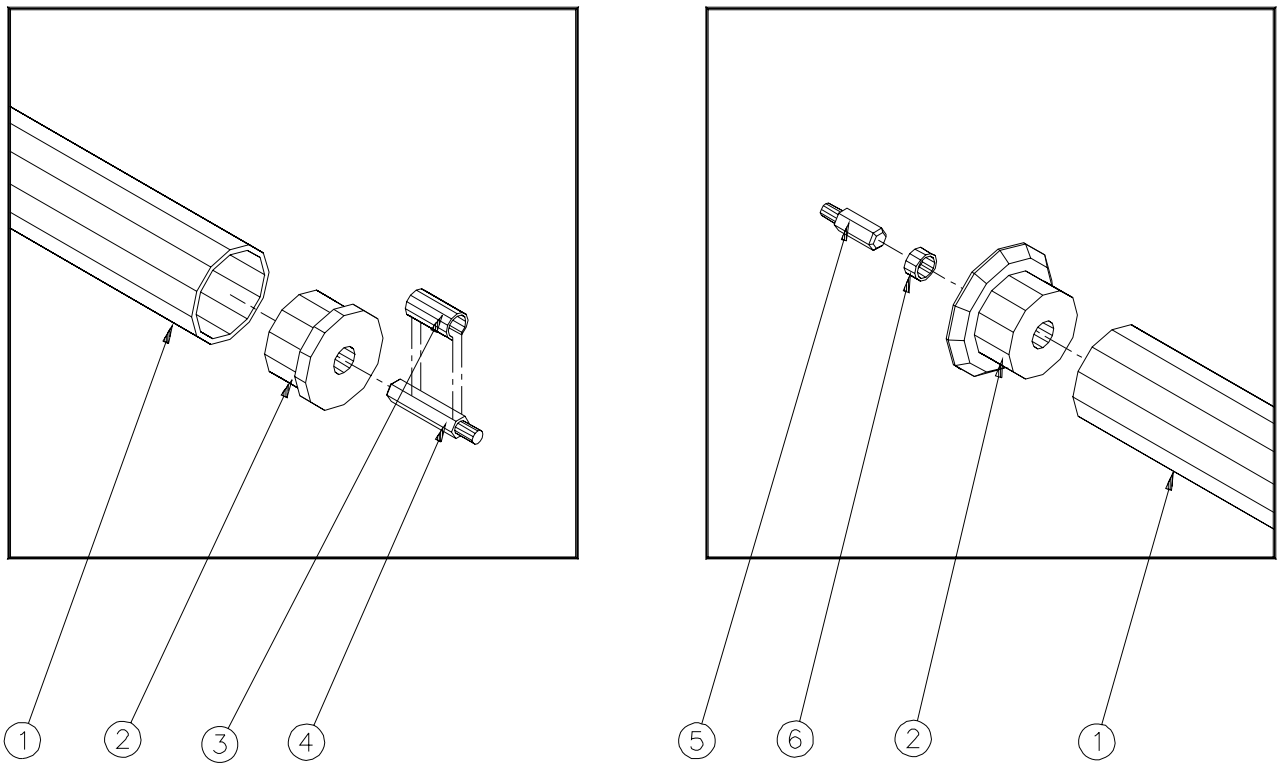

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Figure 7-3. Roller Assemblies

FIG. & ITEM NO.	PART NUMBER		DESCRIPTION	UNITS PER ASSEMBLY
7-3			**ROLLER ASSEMBLIES**	**X**
1	117908	287	ROLLER, CPVC (HIGH TEMPERATURE)	A/R
2	117907	005	CAP, ROLLER END (WITHOUT SHOULDER)	A/R
	117907	952	CAP, ROLLER END (WITH SHOULDER)	A/R
3	117984	416	COLLAR, HOLDING	A/R
4	117984	685	AXLE, LONG	A/R
5	117984	686	AXLE, SHORT	A/R
6	117984	684	COLLAR, HOLDING	A/R

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FIG. & ITEM NO.	PART NUMBER		DESCRIPTION	UNITS PER ASSEMBLY
			Table 7-1. Miscellaneous Parts	
1	117942	588	PUMP, INJECTION	1
2	117942	592	CONTACTOR, MAGNETIC	1
3	117942	593	BLOCK, HEATER ELEMENT	1
4	117940	037	VALVE, SOLENOID, COPPER, 3/4" F	1
	117941	680	• KIT, REPAIR	A/R
	117904	009	VALVE, SOLENOID, S/S, 3/4" F	1
5	117942	596	VALVE, WATER INJECTION, PLASTIC, 1/2"	1
6	117942	594	CABLE, LOW LEVEL SOLUTION	1
7	117950	209	VALVE, SOLENOID, COPPER, 1"F, WATER	1
	117950	212	• KIT, REPAIR	1
8	117940	714	FUSE, 0,5 A	1

Table 7-2. Cleaning Products

NM400	Amscrub™ Multipurpose Cleaner ..... 32 oz, 12 per case
1051-08	Liquid Descale Liquid Scale Remover ..... 1 gal, 4 per case
NM430	Pry® Stain Remover Cream ..... 12 oz, 12 per case
NM410	Stainless Steel Cleaner ..... 18 oz can, each

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